

What Is Claimed Is:

1 *Sub A17* 1. A storage library for the storage and retrieval of media objects,
2 the storage library comprising:
3 first and second horizontally arranged rows of media object storage
4 cells arranged in a common plane, each of the media object storage cells for
5 housing a media object;
6 a horizontally arranged track arranged in the common plane and
7 disposed adjacent to the first row of media object storage cells;
8 a robotic mechanism coupled to the track for moving horizontally
9 along the track; and
10 a media object manipulation mechanism coupled to the robotic
11 mechanism, wherein the media object manipulation mechanism is vertically
12 movable for moving between the first and second rows of media object storage
13 cells when the robotic mechanism is coupled to the track to manipulate the media
14 objects housed within the first and second rows of media object storage cells.

1 2. The storage library of claim 1 wherein:
2 the media object manipulation mechanism is a gripper mechanism.

1 3. The storage library of claim 1 wherein:
2 the media object manipulation mechanism is vertically movable to
3 move from the first row of media object storage cells to the second row of media
4 object storage cells.

1 4. The storage library of claim 3 wherein:

2 the media object manipulation mechanism is vertically movable to
3 move from the second row of media object storage cells back to the first row of
4 media object storage cells.

1 5. The storage library of claim 1 further comprising:
2 a third horizontally arranged row of media object storage cells
3 arranged in the common plane, wherein the media object manipulation mechanism
4 is vertically movable for moving between the first, second, and third rows of
5 media object storage cells to manipulate the media objects housed within the first,
6 second, and third rows of media object storage cells.

1 6. The storage library of claim 1 wherein:
2 the track is disposed between the first and second rows of media
3 object storage cells.

1 7. The storage library of claim 1 wherein:
2 the second row of media object storage cells is below the first row
3 of media object storage cells and the track is disposed above the first row of media
4 object storage cells.

1 8. The storage library of claim 1 wherein:
2 the media objects include media cartridges.

1 9. The storage library of claim 1 wherein:
2 the media objects include media players.

1 10. The storage library of claim 1 further comprising:

2 third and fourth horizontally arranged rows of media object storage
3 cells arranged in the common plane, each of the media object storage cells for
4 housing a media object;

5 a second horizontally arranged track arranged in the common plane
6 and disposed adjacent to the third row of media object storage cells; and

7 a second robotic mechanism coupled to the second track for moving
8 horizontally along the second track; and

9 a second media object manipulation mechanism coupled to the
10 second robotic mechanism, wherein the second media object manipulation
11 mechanism is vertically movable for moving between the third and fourth rows of
12 media object storage cells when the second robotic mechanism is coupled to the
13 second track to manipulate the media objects housed within the third and fourth
14 rows of media object storage cells.

1 11. The storage library of claim 10 wherein:

2 the second media object manipulation mechanism is vertically
3 movable for moving between the second and third rows of media object storage
4 cells when the second robotic mechanism is coupled to the second track to
5 manipulate the media objects housed within the second and third rows of media
6 object storage cells.

1 12. The storage library of claim 1 wherein:

2 the media object manipulation mechanism directly moves vertically
3 between the first and second rows of media object storage cells.

1 13. The storage library of claim 1 wherein:

2 the media object manipulation mechanism rotates to move vertically
3 between the first and second rows of media object storage cells.

1 14. A storage library for the storage and retrieval of media
2 objects, the storage library comprising:

3 first, second, and third horizontally arranged parallel rows of media
4 object storage cells arranged in a common plane, the second row of media object
5 storage cells disposed between the first and third rows of media object storage
6 cells, each of the media object storage cells for housing a media object;

7 a first track arranged in the common plane and disposed adjacent to
8 the first row of media object storage cells;

9 a second track arranged in the common plane and disposed adjacent
10 to the third row of media object storage cells;

11 a first robotic mechanism coupled to the first track for moving
12 horizontally along the first track, the first robotic mechanism having a first media
13 object manipulation mechanism vertically movable for moving between the first
14 and second rows of media object storage cells to manipulate the media objects
15 housed within the first and second rows of media object storage cells; and

16 a second robotic mechanism coupled to the second track for moving
17 horizontally along the second track, the second robotic mechanism having a second
18 media object manipulation mechanism vertically movable for moving between the
19 second and third rows of media object storage cells to manipulate the media objects
20 housed within the second and third rows of media object storage cells.

1 15. A robotic mechanism for an automated storage library having
2 first and second rows of media object storage cells arranged in a common plane,
3 the robotic mechanism comprising:

4 a media object manipulation mechanism; and

5 a carriage for coupling to a track arranged in the common plane and
6 disposed between the first and second rows of media object storage cells to move

7 the media object manipulation mechanism along the track, wherein the media
8 object manipulation mechanism is vertically movable to manipulate media objects
9 housed above and below the track in the first and second rows of media object
10 storage cells of the automated storage library.

1 16. The storage library of claim 15 further comprising:
2 a carousel associated with the media object manipulation mechanism
3 for rotating the gripper mechanism to be vertically movable.

1 17. A method of operating a storage library having first and
2 second horizontally arranged rows of media object storage cells arranged in a
3 common plane, each of the media object storage cells for housing a media object,
4 and a horizontally arranged track arranged in the common plane and disposed
5 adjacent to the first row of media object storage cells, the method comprising:
6 coupling a robotic mechanism to the track for horizontal movement
7 along the track; and
8 vertically moving a media object manipulation mechanism coupled
9 to the robotic mechanism between the first and second rows of media object
10 storage cells when the robotic mechanism is coupled to the track; and
11 manipulating the media objects housed within the first and second
12 rows of media object storage cells with the gripper mechanism.

1 18. The method of claim 17 wherein:
2 vertically moving the media object manipulation mechanism
3 includes vertically moving the media object manipulation mechanism from the first
4 row of media object storage cells to the second row of media object storage cells.

1 19. The method of claim 18 wherein:

2 vertically moving the media object manipulation mechanism
3 includes vertically moving the media object manipulation mechanism from the
4 second row of media object storage cells back to the first row of media object
5 storage cells.

1 20. The method of claim 17 wherein the storage library includes
2 a third horizontally arranged row of media object storage cells arranged in the
3 common plane, wherein:

4 vertically moving the media object manipulation mechanism
5 includes vertically moving the media object manipulation mechanism between the
6 first, second, and third rows of media object storage cells to manipulate the media
7 objects housed within the first, second, and third rows of media object storage
8 cells.

1 21. The method of claim 17 wherein:

2 vertically moving the media object manipulation mechanism
3 includes directly moving the media object manipulation mechanism vertically
4 between the first and second rows of media object storage cells.

1 22. The method of claim 17 wherein:

2 vertically moving the media object manipulation mechanism
3 includes rotating the media object manipulation mechanism to move vertically
4 between the first and second rows of media object storage cells.